CLAIMS

1. Method for shaping a roll cleaning brush (1) with a brush covering (2), especially for work rolls used in metal, especially aluminum, hot-rolled strip mills, which comprises a supporting base body (3) which is supported at its ends and on which the brush covering (2) is mounted, which brush covering (2) is pressed against the roll (4) with an adjustable force or a well-defined insertion depth to produce a cleaning effect, characterized by the fact that the shape of the brush covering (2) or of the cleaning brush (1) is formed according to the geometry of the roll (4) with a contour based on the mathematical function of a polynomial, an exponential function, a trigonometric function, etc.

2. Cleaning brush with a brush covering (2) for use in metal, especially aluminum, hot-rolled strip mills, which is produced in accordance with Claim 1, characterized by the fact that the cleaning brush or its brush covering (2) has a contour which matches the contour of the rolls, especially the work rolls (4), and that it has the contour of a given polynomial, an exponential function, a trigonometric function, etc.

3. Cleaning brush in accordance with Claim 2, characterized by the fact that it is provided, at at least one

of its terminal bearings, with means for displacing it in its axial direction or is coupled with the displaceable work rolls.

4. Cleaning brush in accordance with Claim 2 or Claim 3, characterized by the fact that the means for displacing the cleaning brush are coupled, preferably in a synchronized way, with the means for displacing the roll.

5. Method of operation of a cleaning brush with a brush covering (2) in metal, especially aluminum, hot-rolled strip mills, which is produced in accordance with Claim 1, characterized by the fact that the shape of the brush covering (2) or the shape of the cleaning brush (1) is so extensively matched to the shape of the roll (4) that a largely uniform contact pressure between the roll and the brush covering or cleaning brush is established over the body length of the roll, preferably in the region of the strip width of the roll, with a minimal contact force F_B for a sufficient cleaning effect (Figure 4a).

6. Method in accordance with Claim 5, characterized by the fact that the empirically known bending deflection of the base body (3) of the brush and the empirically known thermal crown of the roll (4) are compensated by a conformal symmetrical camber of the brush covering (2), taking into account the effect of the

rigidity of the base body (3) of the brush.

7. Method in accordance with Claim 5 or Claim 6, characterized by the fact that if the work roll (4) is axially displaced during the operation by a functionally related measure of length, the cleaning brush (1) is also displaced by a preferably equal measure of length in the same direction in order to maintain its relative longitudinal position to the roll and to the shape of the roll.

8. Method in accordance with one or more of Claims 5 to 7, characterized by the fact that if the work roll (4) is axially displaced, the contact pressure of the brush is adjusted to the altered effective roll geometry.

9. Cleaning brush in accordance with Claim 7 or Claim 8, characterized by the fact that it is provided, at at least one of its terminal bearings, with means for displacing it in its axial direction or is coupled with the displaceable work rolls.

10. Cleaning brush in accordance with Claim 9, characterized by the fact that the means for displacing the cleaning brush are coupled, preferably in a synchronized way, with the means for displacing the roll.